

### REMARKS

This application has been reviewed in light of the Office Action dated December 11, 2003. Claims 2-8 are presented for examination. Claims 1 and 9-14 have been canceled, without prejudice or disclaimer of the subject matter presented therein. Claims 2-6 have been amended to define more clearly what Applicants regard as their invention. Claim 2 is in independent form. Favorable reconsideration is requested.

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,626,233 to Wainer et al. (hereinafter "Wainer '233"), and as being anticipated by U.S. Patent 3,724,066 to Wainer et al. (hereinafter "Wainer '066"). Claims 2-8 were rejected under 35 U.S.C. § 103(a) as being obvious from U.S. Patent 4,475,059 to Sink in view of Wainer '066.

First, without conceding the propriety of the rejections of Claim 1, cancellation of Claim 1 renders the rejection of that claim moot.

Claim 2 is directed to a channel plate. A substrate has plural pores extending therethrough, each pore being defined by a respective inner wall surface of the substrate surrounding the pore. A first electrode is placed on an upper surface of the substrate, and a second electrode is disposed along a lower surface of the substrate. Electron multipliers are comprised of at least one of diamond, graphite, and carbon, or a mixture of at least one thereof, each electron multiplier being disposed along a corresponding inner wall surface of the substrate surrounding a corresponding pore.

Among notable features of Claim 2 is that the substrate has plural pores extending therethrough, each pore being defined by a respective inner wall surface of the substrate surrounding the pore, and electron multipliers comprised of at least one of

diamond, graphite, and carbon, or a mixture of at least one thereof, are disposed along a corresponding inner wall surface of the substrate surrounding a corresponding pore. Support for this feature can be found in the present application, at least at page 15, lines 10-15.<sup>1</sup>

Sink, as understood by Applicants, relates to an image intensifier tube and a method of making the same. Fig. 1 shows the image intensifier tube 10. The image intensifier tube 10 includes a cylindrical housing 11 in which is located a front face plate 12 made of optical material which is arranged to receive and transmit light. The face plate 12 is normally sealed within the housing 11 and is surrounded by a peripheral flange 15. Light rays from the field of view (labeled "on axis" in Fig. 1) penetrate the face plate 12 and are directed to the electronics of the image intensifier where they are increased in amplitude. Light which emanates from outside the field of view (labeled "off axis" in Fig. 1) are reflected off an inner surface of the tube 10 and are directed back to the electronics where they are also increased in amplitude. At column 2, beginning at line 53, Sink teaches that in Fig. 2, the image intensifier tube 10 can be seen to comprise three basic components: the face plate 12 which functions as a cathode, a face plate (inside a chamber 18 and not illustrated in the drawing) which functions as an anode, and a micro-channel plate 25 located in between and spaced from both the face plate 12 and the chamber 18.

The Office Action at pages 3-4 states that "Sink et al discloses a channel plate including a a [sic] first and second electrodes (anode, cathode, see col. 2, lines 52-59), and an aluminum oxide substrate (12)..., and an electron multiplier (MCP 25)." The Office

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<sup>1</sup>/It is of course to be understood that the reference to the present application is by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Action then concedes that Sink does not teach or suggest Applicants' claimed channel plate because the substrate in Sink is not porous.

It is respectfully submitted that, in Applicants' view, nothing in Sink teaches or suggests the feature of Claim 2 of electron multipliers, each being disposed along an inner wall surface of a substrate surrounding a corresponding pore, each electron multiplier comprising at least one of diamond, graphite, and carbon, or a mixture of at least one thereof, as recited in Claim 2. The micro-channel plate 25 of Sink is formed of a glass material, as discussed at column 2, lines 60-62.

Wainer '066, as understood by Applicants, relates to light amplifiers, and discusses microchannel plates prepared from anodized aluminum layers etched to increase the pore volume to approximately 50 percent and then treated to exhibit suitable electrical properties for use as a channel plate.

The Office Action at page 4 cites Wainer '066 "for showing that the channel plate includes a porous aluminum compound substrate...." However, nothing has been found in Wainer '066 that would remedy the deficiencies of Sink discussed above. Wainer '066 discusses, e.g., merely coating channel walls of channel plates with secondary emitters by placing the channel plates in solutions of appropriate metal salts (see column 7, lines 9-20). Wainer '066 also discusses incorporating metal ions such as magnesium, beryllium, titanium, manganese, boron, vanadium, silver, zinc, and the like into an anodic structure, possibly by utilizing suitable alloys of these metals as the anodizing substrate, such that the anodized film then consists in part of these metal oxides interspersed in the aluminum oxide matrix (see from column 6, line 61 to column 7, line 8). However, in Applicants' view, nothing in Wainer '066 teaches or suggests electron multipliers, each

being disposed along an inner wall surface of a substrate surrounding a corresponding pore, wherein each electron multiplier comprises at least one of diamond, graphite, and carbon, or a mixture of at least one thereof, as recited in Claim 2.

Accordingly, Claim 2 is seen to be clearly allowable over Sink and Wainer '066, either separately or in any permissible combination (if any).

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from Claim 2 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual rereconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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